

## 2013 DATA SUMMARY REPORT

### Ballard, Enoch Valley, and Henry Mines Remedial Investigation Activities

FINAL  
Revision 1

April 2013

prepared for

**P4 PRODUCTION, LLC**

**2013 DATA SUMMARY REPORT**  
**BALLARD, ENOCH VALLEY, AND HENRY MINES**  
**REMEDIAL INVESTIGATION ACTIVITIES**

**FINAL**  
**Revision 1**

**APRIL 2014**

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*Prepared for:*  
***P4 PRODUCTION, LLC***

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## ACRONYMS AND ABBREVIATIONS

AOC	Administrative Order of Consent
A/T	Agencies and Tribes
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CO	Consent Order
COPC	contaminant of potential concern
COPEC	constituents of potential ecological concern
CVS	calibration verification standards
DOI	Department of the Interior
DQO	Data Quality Objectives
DSR	Data Summary Report
EPA	(U.S.) Environmental Protection Agency
FSP	Field Sampling Plan
U.S. FWS	U.S. Fish and Wildlife Service
HHERA	human health and ecological risk assessments
ICAL	initial calibration
ICV	initial calibration verification
IDEQ	Idaho Department of Environmental Quality
IS	Internal standard
LCD	laboratory control duplicate
LCS	laboratory control sample
LDC	Laboratory Data Consultants
MWH	MWH Americas, Inc.
MS/MSD	matrix spike / matrix spike duplicate
P4	P4 Production L.L.C.
QAPP	Quality Assurance Project Plan
QC	Quality Control
RI/FS	Remedial Investigation / Feasibility Study
RLs	Reporting Limits
SAP	Sampling and Analysis Plan
SOW	Statement of Work
SOP	Standard Operating Procedure

Tribes	The Shoshone-Bannock tribes
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## 1.0 INTRODUCTION

This Data Summary Report (DSR) was prepared by MWH Americas, Inc. (MWH) on behalf of P4 Production, LLC (P4), in accordance with the requirements of the Administrative Settlement Agreement and Order on Consent/Consent Order for Remedial Investigation/Feasibility Study (2009 CO/AOC; USEPA, 2009). The 2009 CO/AOC is a voluntary agreement between P4 and the United States Environmental Protection Agency (EPA), the Idaho Department of Environmental Quality (IDEQ), the United States Department of Agriculture, Forest Service (Forest Service), the U.S. Fish and Wildlife Service (U.S. FWS), the United States Department of the Interior (DOI), Bureau of Land Management (BLM), the Shoshone-Bannock tribes (Tribes), collectively referred to as the Agencies and Tribes or A/Ts. This DSR supports the comprehensive mine-specific Remedial Investigation/Feasibility Study (RI/FS) that is being conducted at P4's three historic phosphate mines: Ballard, Henry and Enoch Valley mines, collectively known as the "Sites". Within this DSR, data are presented with little to no interpretation as the combined data set for each Site has been or will be evaluated in the individual Ballard, Henry, and Enoch Valley Mine Site RI and FS Reports.

This DSR documents the most recent sampling round conducted at P4 in 2013 and includes descriptions of the field activities conducted and summarizes the results from those sampling efforts. Figure 1-1, *Vicinity Map*, depicts the footprint of each Site and its geographic relationship with the other Sites. Executed field activities include surface water and groundwater sampling rounds for spring and fall 2013.

### 1.1 Report Description and Objectives

This report is intended to fulfill the requirements for reporting data consistent with a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) RI and Task 3c of the Statement of Work (SOW) attached to the 2009 CO/AOC. Consistent with the SOW, this DSR documents the investigative activities that were conducted during the 2013 field season in Section 2.0, provides site summary data in Section 3.0, and complete data packages and field forms (in the appendices). The purpose and objectives of the 2013 RI activities are further discussed below.

#### 1.1.1 2013 Surface Water and Groundwater Sampling

The objectives of the 2013 water monitoring program were the same as the 2012 monitoring program with a few changes that are detailed in Section 2.2. The objectives, methods, and procedures for surface water and groundwater sampling conducted in 2013, and reported herein, are presented in the A/T-approved technical memorandum entitled *Proposed P4 Long-Term Surface Water and Groundwater Monitoring Plan - Final Rev1 (2013 Long-Term Surface Water and Groundwater Memo*; MWH, 2013a).

From 2004 through 2008 the objective of surface water monitoring conducted at the Sites was to support nature and extent characterizations of impacts to water quality associated with releases to surface water from potential sources. However, in 2009 the surface water monitoring program transitioned from a characterization program to an interim monitoring plan that provides an annual

assessment of surface water conditions downstream of potential sources associated with each Site. The objective of the surface water sampling conducted since 2009 is to establish long-term data trends and assist with the development of site-specific remedies at individual mines. The details of the current monitoring plan, including data quality objectives (DQOs) and the field sampling plan (FSP), are included in the A/T-approved *2009 and 2010 Surface Water Monitoring Sampling and Analysis Plan - Final Revision 2 (2009/2010 Surface Water SAP; MWH, 2009a)*.

Characterization of groundwater at the Sites has been conducted in a phased approach since 2004 and the spatial/categorical relevance of individual groundwater monitoring locations and the analyte lists were evaluated as part of the following sampling plans:

- *2009 Groundwater Monitoring Sampling and Analysis Plan (2009 Groundwater SAP; MWH, 2009b)*,
- *2010 Groundwater Monitoring Memorandum (2010 Groundwater Memo; MWH, 2010)*,
- *2012 Surface and Groundwater Monitoring Programs - Final Revision 2 (2012 Surface Water and Groundwater Memo; MWH, 2012)*, and the
- *2013 Long-Term Surface Water and Groundwater Memo*.

Starting in 2013, continued ongoing monitoring of constituents of potential concern (COPC) concentrations and piezometric conditions in monitoring wells began to support the evaluation of remedies in the FS and implementation of the sites-selected remedies during any corrective action that may be necessary. Sampling of the long-term groundwater monitoring locations also allows for an understanding of potential long-term trends, especially following the implementation of the selected remedy at each of the Sites.

## **1.2 Report Organization**

The content of this DSR is as follows:

- Section 1.0 – Introduction
- Section 2.0 – Summary of 2013 Field Activities
- Section 3.0 – Summary of 2013 Analytical Results by Mine Site
- Section 4.0 – References

## 2.0 SUMMARY 2013 FIELD ACTIVITIES

This section discusses the surface water and groundwater sampling programs and data collection activities during the 2013 field program. Further evaluation of the data is reserved for the individual Site RI Reports and not presented herein. The Ballard RI is complete and used data through 2012; therefore, future data collected at Ballard Mine, including 2013, will be used as baseline data until the Ballard Mine selected remedy is in place. The 2013 and future data collected for Henry and Enoch Valley Mine Sites will be included in their respective RI reports. A summary of analyte exceedances in each program, organized by individual mine Site, is provided in Section 3.0. All field activity forms (including field sampling forms, chains of custody, sampling field note book copies, sampling parameter measurements and any other relevant field data) are provided in Appendix A.

### 2.1 2013 Surface Water and Groundwater Sampling

Surface water and groundwater monitoring was conducted during the spring and fall of 2013. The surface water and groundwater sample locations for each of the mine sites are shown on Figure 2-1 (*Media Sample Locations Ballard Mine Site*), Figure 2-2 (*Media Sample Locations Enoch Valley Mine Site*) and Figure 2-3 (*Media Sample Locations Henry Mine Site*).

The total number of surface water and groundwater samples collected during the Spring 2013 sampling event (between April 23 through 27 and May 13 through 16, 2013) were:

- Ballard Mine: 17 surface water and 22 groundwater samples.
- Enoch Valley Mine: nine surface water and 14 groundwater samples. Two surface water (MST144 and MST269) and three groundwater locations were dry (MBW107, MBW112, and MMW012).
- Henry Mine: seven surface water and six groundwater samples. One surface water location was dry (MST051).

Fall 2013 groundwater samples were not collected, as prescribed in the *2013 Long-Term Surface Water and Groundwater Memo*. Fall 2013 surface water sampling locations were selected based on the rationale described in the *2013 Long-Term Surface Water and Groundwater Memo*.

Fall 2013 (September 23, 2013) surface water sampling totals were:

- Ballard Mine: five surface water samples
- Enoch Valley Mine: one surface water sample was collected. One surface water location was dry (MST144).
- Henry Mine: two surface water samples were collected. Two surface water locations were dry (MST275 and MDS034)

Surface water samples were collected using the protocols outlined in SOP-NW-9.1, *Collection of Surface Water Samples*. Surface water flow measurements were collected according to the methods presented in SOP-NW-9.2a, *Surface Water Flow Measurements Using Man-Made Portable Devices or Estimation Techniques*. Both of these Standard Operating Procedures (SOPs) are included in the 2009/2010 *Surface Water SAP*.

Groundwater samples were collected using the protocols outlined in SOP-NW-5.3, *Collection Groundwater Quality Samples and the SOP Low Stress Purging and Sampling Procedures for the Collection of Groundwater Samples from Monitoring Wells*. Both of these SOPs are included in the 2009 *Groundwater SAP*.

Summaries of groundwater and surface water COPC exceedances based on the appropriate regulatory standards for the 2013 program are provided in Sections 3.2 and 3.3.

## **2.2 2013 Surface Water and Groundwater Program Changes from 2012**

The objectives of the 2013 water monitoring program were the same as the 2012 monitoring program with a few changes:

**Surface Water** - The 2013 surface water monitoring program mimicked the 2009/2010 and 2012 programs with the following differences:

- Background stations MST048 and MST093 were not included as part of the 2013 program. These stations were sampled in 2012 to support the evaluation of background concentrations for COPCs and constituents of potential ecological concern (COPECs). The background evaluations were completed in 2013 as documented in the *Background Levels Development Technical Memorandum Ballard, Henry, Enoch Valley Mines Remedial Investigation and Feasibility Study – Final Revision 0 (Background Levels Technical Memorandum, MWH, 2013b)*. Because these evaluations are complete and historical and current sampling data exists, annual long-term monitoring of these background stations is no longer warranted.
- Dissolved selenium was included in the analyte list for all surface water stations to assist in the evaluation of samples that may have high turbidity/suspended solids (see Table B-1 of Appendix B).

**Groundwater** - The 2013 groundwater monitoring program mimicked the 2009/2010 and 2012 programs with the following exceptions:

- Specific agricultural, domestic, and production wells were included in 2012 in order to support the evaluation of groundwater background concentrations. The background evaluations were completed in 2013 as documented in the A/T approved *Background Levels Technical Memorandum*. Because the background evaluations are complete as documented and no selenium exceedances were reported during three sampling events (2004, 2008, and 2012), annual long-term monitoring of these wells is not warranted. As a result, no agricultural, domestic, or production wells were sampled in 2013.

- As of 2012, all wells had been sampled for the regular and expanded list of analytes (see Table 2 of the *2010 Groundwater SAP*). As part of the 2013 program, all groundwater monitoring wells were sampled for the primary analyte list (see Table B-1 of Appendix B). In addition, total manganese was added to the primary analyte list in 2012. This addition to the primary list was included in the 2013 program, but will be re-evaluated based on future sampling results to determine if continued monitoring of manganese concentrations is warranted. Similar to surface water, dissolved selenium was included in the 2013 analyte list for all groundwater stations to assist in the evaluation of well samples that may have high turbidity/suspended solids which could affect the analytical results leading to misinterpretation of the data.

## 2.3 Work Plan Deviations

In an effort to capture high surface water runoff conditions, the 2013 Spring sampling schedule began April 23rd instead of the customary early-May timeframe. Sampling occurred until April 27<sup>th</sup> and was then suspended due to snow and mud rendering sampling locations inaccessible. The second mobilization and completion of the Spring sampling occurred between May 13<sup>th</sup> through 16<sup>th</sup>, 2013. Because of the date gap that occurred in the Spring sampling effort, the A/T's requested that three surface water stations (that were sampled between April 23-27<sup>th</sup>) be resampled during the second Spring sampling mobilization (between May 13-16<sup>th</sup>). In an email dated May 8, 2013 the A/T's stated their rationale for resampling the surface water stations:

***“Rationale:** In previous years at Ballard, Henry, and Enoch Valley mines surface water monitoring occurred within a short time-frame such that samples could be considered as having been collected under “similar conditions.” This year due to weather conditions there will be at least a two week lag between the start and finish of surface water sampling. To ensure that samples are comparable between the first and second spring sampling sessions, the Agencies and Tribes have identified three sites to resample. Results from these resample sites will help determine if similar conditions exist between the two events.*

***Sites to Resample:** Below are three sites to resample as part of the continued surface water-groundwater sampling at Ballard, Henry, and Enoch Valley mines. Sampling these should achieve the objective outlined above.*

### Ballard Mine

- MST067 – upgradient site; known high levels of Se concentration; west-side site
- MST095 – upgradient site; known high levels of Se concentration; only site sampled on east side during first session with 5 other east-side sites to be sampled during next session

### Henry Mine

- None – the two remaining sites to sample (MST226 and MST275) should be unaffected by Henry Mine thus there is nothing to be gained by documenting possible changes

*Enoch Valley Mine*

- *MST133 – mid-gradient site; known elevated levels of selenium; downstream of one site sampled in first session and two sites to be sampled in second session”*

All three requested locations were resampled during the second sampling effort. The comprehensive original and resample data are provided in Appendix B. A discussion on the comparison of the data collected from the two separate sampling events is discussed below in Section 3.2.

### 3.0 SUMMARY OF 2013 ANALYTICAL RESULTS BY MINE SITE

This section presents the exceedances of appropriate COPC/COPEC screening levels in the results from analyses of surface water and groundwater samples collected during the 2013 field activities. A comprehensive discussion of screening level development is found in Section 3.2 and Table 3-1 of the *Remedial Investigation/Feasibility Study Work Plan for P4's Ballard, Henry and Enoch Valley Mines Final - Revision 2 (RI/FS Work Plan)*; MWH 2011). The A/T-approved characterization screening levels presented in Table 4-1 of the *Remedial Investigation Report for P4's Ballard Mine Draft - Revision 0 (Draft Ballard RI Report)*; MWH, 2013c) were used in this DSR. These screening levels are used to evaluate the concentration of each constituent in each medium presented in the following sections and also will be used in the additional Site RI Reports.

Note that these screening levels are used to indicate elevated constituents. However, these elevated constituents will be evaluated in the exposure scenarios presented in the human health and ecological risk assessments (HHERA) for each mine. These HHERA will more clearly convey the risks posed by individual constituents and combined constituent exposures.

A detailed evaluation of these data is reserved for the individual Site RI Reports and is not provided herein. Comprehensive results for all 2013 analytical data, as well as a copy of Table 4-1 from the *Draft Ballard RI Report*, are provided in Appendix B.

#### 3.1 Third Party Data Validation

Third party data validation was performed on all laboratory analyses from the 2013 field program. Data validation is the process of evaluating the quality control (QC) parameters against the criteria established in the Quality Assurance Project Plan (QAPP) and qualifying those data points where the QC criteria is outside the established criteria. Level III data validation evaluates the following QC parameters:

- QAPP compliance
- Sample preservation and extraction and analytical holding times
- Method, trip, diffusion bag, and equipment rinseate blank sample results
- Reporting limits (RLs)
- Field duplicate sample results
- Tune standard results
- Initial calibration (ICAL), initial calibration verification (ICV), and continuing calibration verification standards (CVS) results
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) sample results

- Laboratory control sample (LCS) and laboratory control duplicate (LCD) results
- Internal standard (IS) results.

In addition to the Level III data validation process, Level IV validation was conducted for 10 percent of the data in accordance with the QAPP. In addition to the QC parameters reviewed during the Level III validation process, the following data review was conducted as part of the Level IV validation: Review of raw data from the instrument (i.e. chromatograms, quantitation reports, spectra)

- Back check of all calculations
- Review of sample preparation and analytical logs.

A qualitative assessment also was conducted to evaluate whether the validated data were of sufficient quality to support the project objective (i.e., end use). All of the Level III and IV data validation reports prepared by Laboratory Data Consultants (LDC) showed that the overall assessment of the data was found to be acceptable. The complete validation reports from LDC are included as Appendix C.

### **3.2 Surface Water Sampling – 2013 Analytical Results**

Tables 3-1 (Ballard), 3-2 (Enoch Valley) and 3-3 (Henry) present the exceedances of screening levels, by mine Site, in surface water for the 2013 events. As discussed above in Section 2.3, three surface water locations (MST067, MST095, and MST133) were sampled twice during the spring sampling round, once in April and again in May. In an effort to determine if the data collected from the two sampling events were comparable the relative percent difference (RPD) was calculated between the two sampling events for those analytes that were positively identified. The RPD was evaluated as a comparison method based on the use of the RPD as a validation/verification method for duplicate samples, which are traditionally collected concurrently, as specified in the QAPP.

Of the 10 comparisons made seven exceeded the  $\leq 20\%$  RPD acceptance criteria for water (see Table 3-4). Because the RPD comparison is typically calculated for duplicate samples which are traditionally collected concurrently, and the April – May 2013 comparison sample set was not collected concurrently, further analysis of the data was warranted. Statistical analysis was then evaluated using historical data, for each of the three locations and each of the analytes that were positively identified. The mean value of the historical plus or minus the standard deviation of the historical data was calculated for each analyte and compared to the analytical results for the April 2013 sampling round. It should be noted that all historical data used, for comparison, were from May sampling events only. The April 2013 sampling results all fell within one to two standard deviations within the mean. In spite of the RPD method results indicating that the samples collected would not pass the QAPP field duplicate RPD criteria, the comparison to the historical data indicate the April 2013 sampling results fell within historical norms for each of the sampling locations and analytes. This statistical comparison method is more robust than the RPD method

because it utilizes more data. Furthermore, the RPD assessment could be considered not totally applicable because it was calculated on samples not collected concurrently. Based on these comparisons, the data collected from the two sampling events can be considered to be collected under similar conditions and they are comparable. Table 3-5 details the statistical comparison made for each of the three sampling locations.

The comprehensive results for all 2013 surface water constituents are provided in Appendix B.

### **3.3 Groundwater Sampling – 2013 Analytical Results**

Tables 3-6 (Ballard), 3-7 (Enoch Valley) and 3-8 (Henry) present the exceedances of screening levels by mine Site in groundwater for the 2013 event. The comprehensive results for all 2013 groundwater constituents are provided in Appendix B.

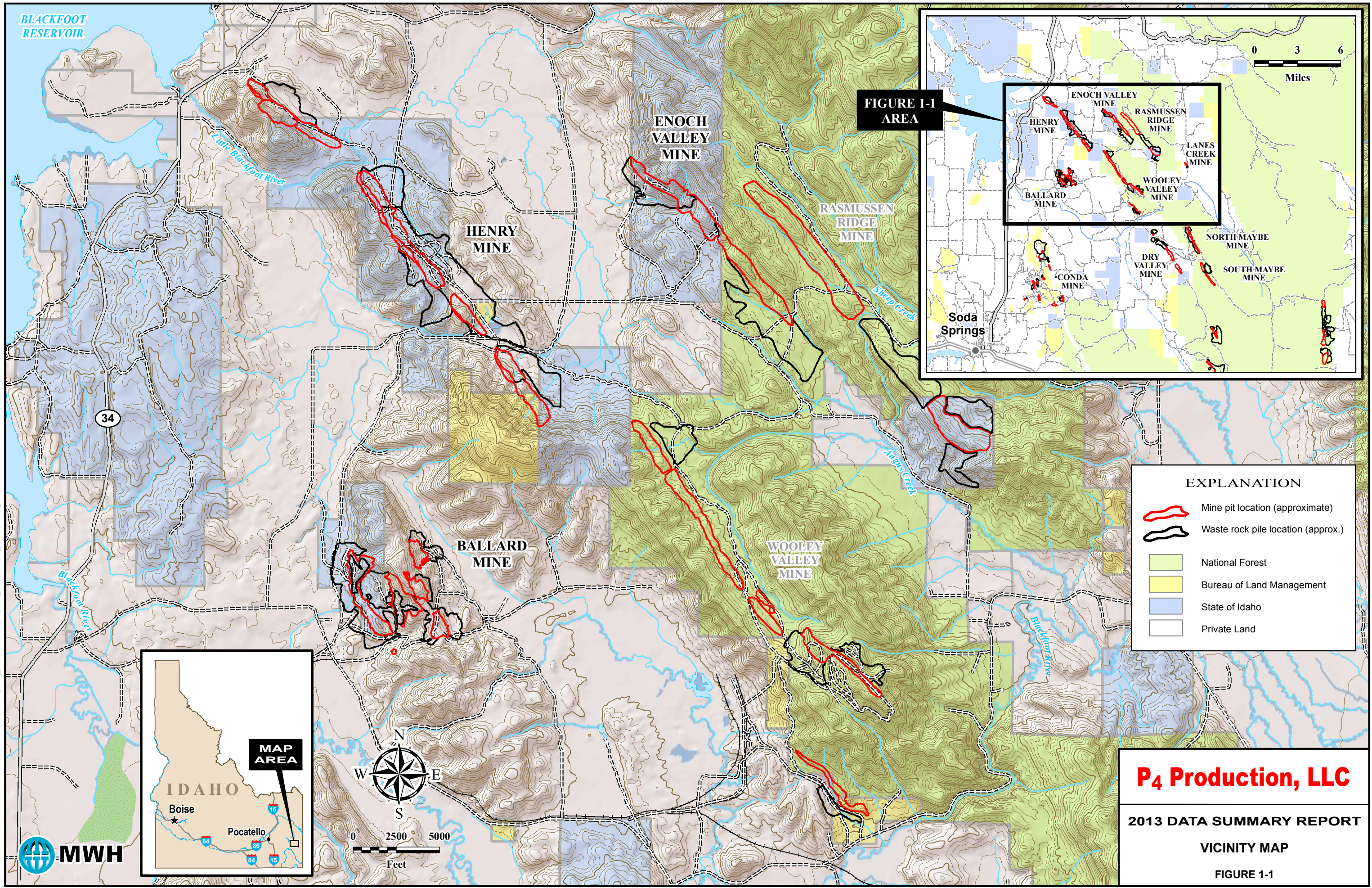
### **3.4 Conclusions**

This DSR has presented data collected in 2013 to address long-term monitoring of surface water and groundwater at the Sites. No additional potential data gaps were discovered based on the 2013 data. The data and information presented in this DSR will eventually be combined with other site characterization data to complete the evaluation of conceptual models, source areas, pathways, and receptors in the RI Reports for Henry and Enoch Valley Mines and during the FS for the Ballard Mine.

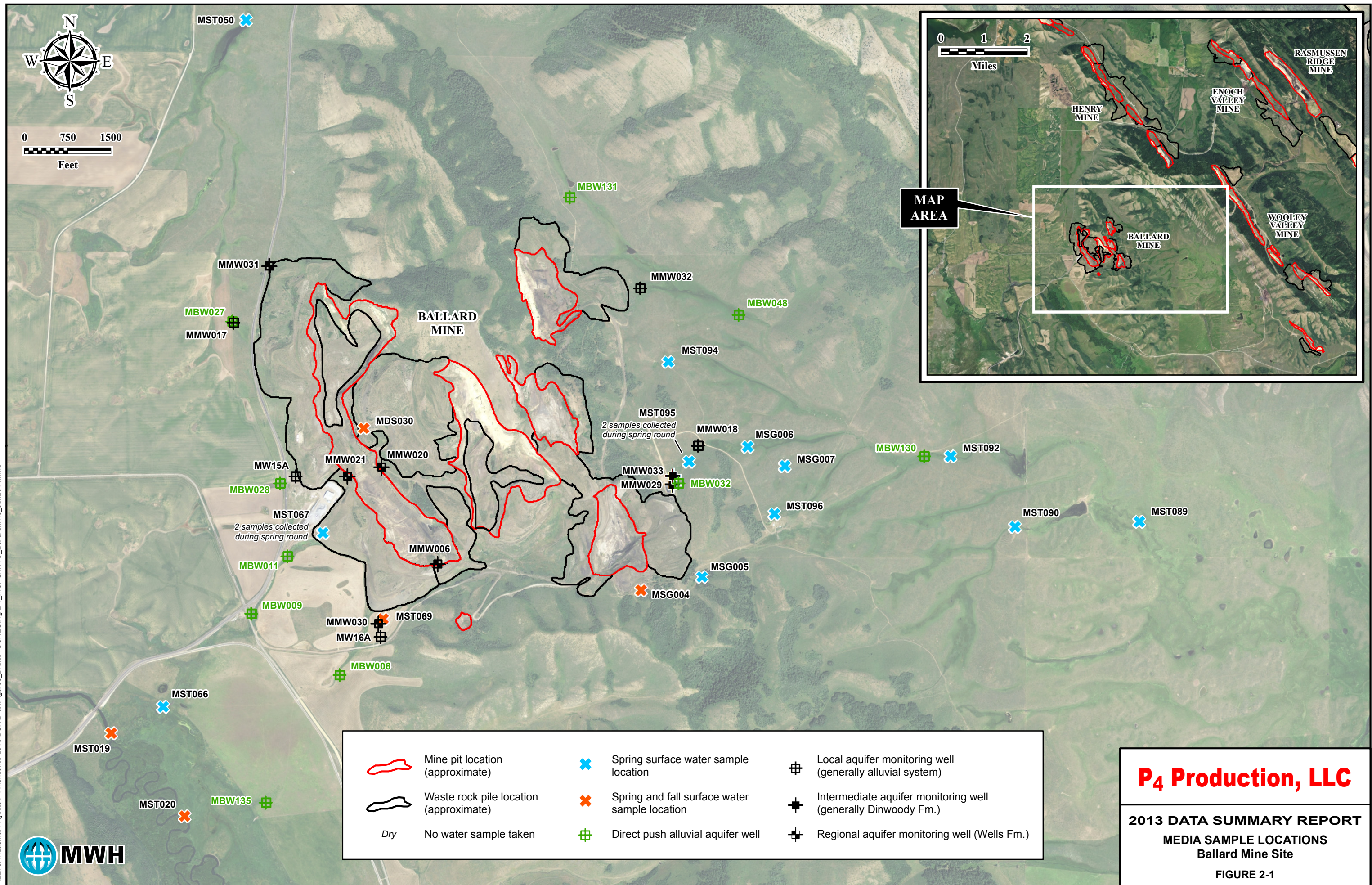
## 4.0 REFERENCES

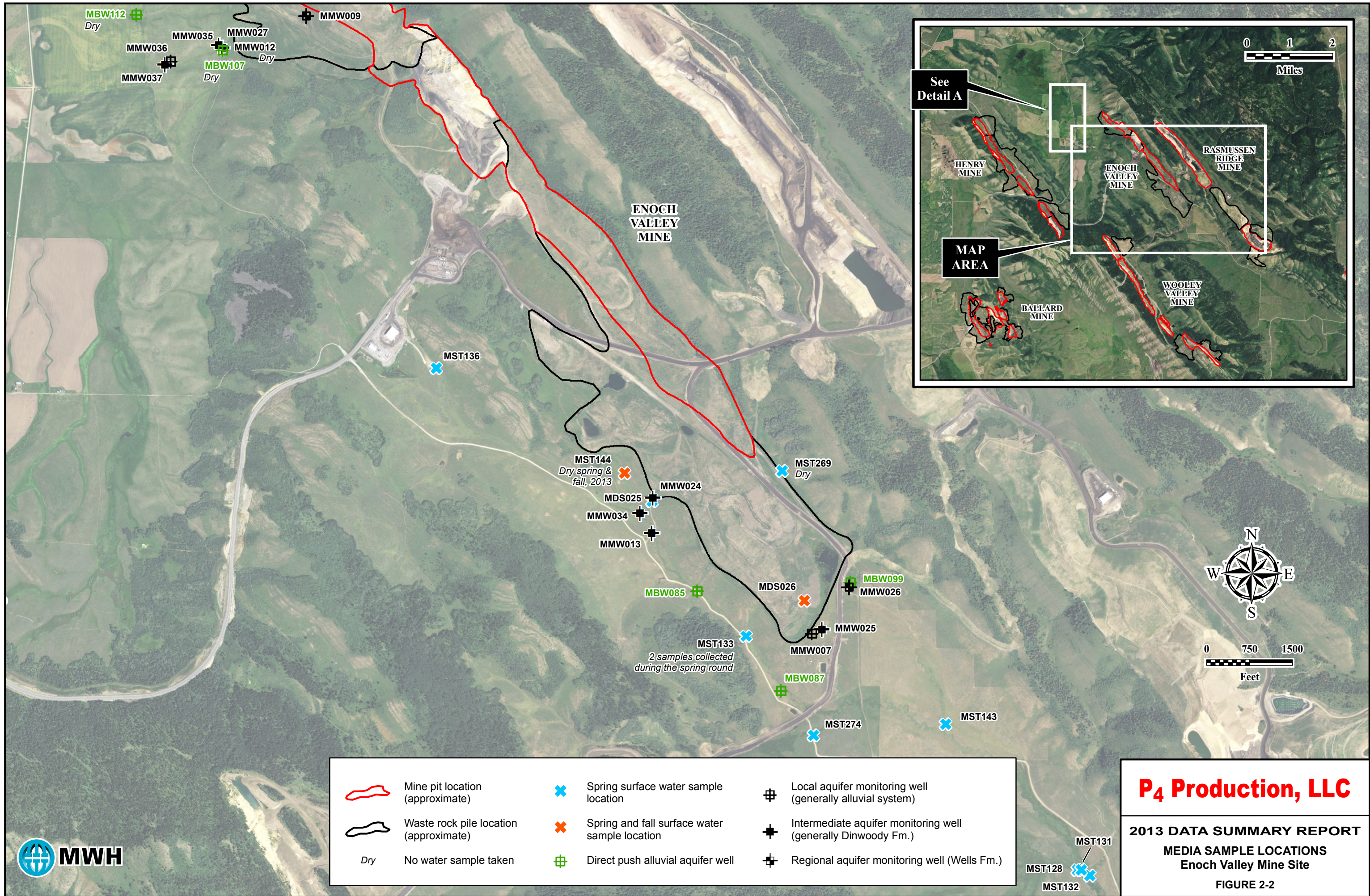
- MWH, 2009a. *Final - 2009 and 2010 Surface Water Monitoring Sampling and Analysis Plan*. Revision 2, prepared for P4 Production L.L.C., May 2009.
- MWH, 2009b. *Final - 2009 Groundwater Monitoring Sampling and Analysis Plan* . Revision 3, prepared for P4 Production L.L.C., August 2009.
- MWH, 2010. *Final - 2010 Groundwater Monitoring Memorandum*. Revision 2, prepared for P4 Production L.L.C., May 2010.
- MWH, 2011. *Final - 2011 Remedial Investigation/Feasibility Study Work Plan for P4's Ballard, Henry and Enoch Valley Mines*. Revision 2, prepared for P4 Production L.L.C., May 2011.
- MWH, 2012. *Final - 2012 Surface and Groundwater Monitoring Programs*. Revision 2, prepared for P4 Production L.L.C., May 2012.
- MWH, 2013a. *Proposed P4 Long-Term Surface Water and Groundwater Monitoring Plan – Final*. Revision 1, prepared for P4 Production L.L.C., April 2013.
- MWH, 2013b. *Background Levels Development Technical Memorandum Ballard, Henry, Enoch Valley Mines Remedial Investigation and Feasibility Study – Final Revision 0*, prepared for P4 Production L.L.C., March 2013.
- MWH, 2013c. *Remedial Investigation Report for P4's Ballard Mine Draft - Revision 0*, prepared for P4 Production L.L.C., November 2013.

## FIGURES



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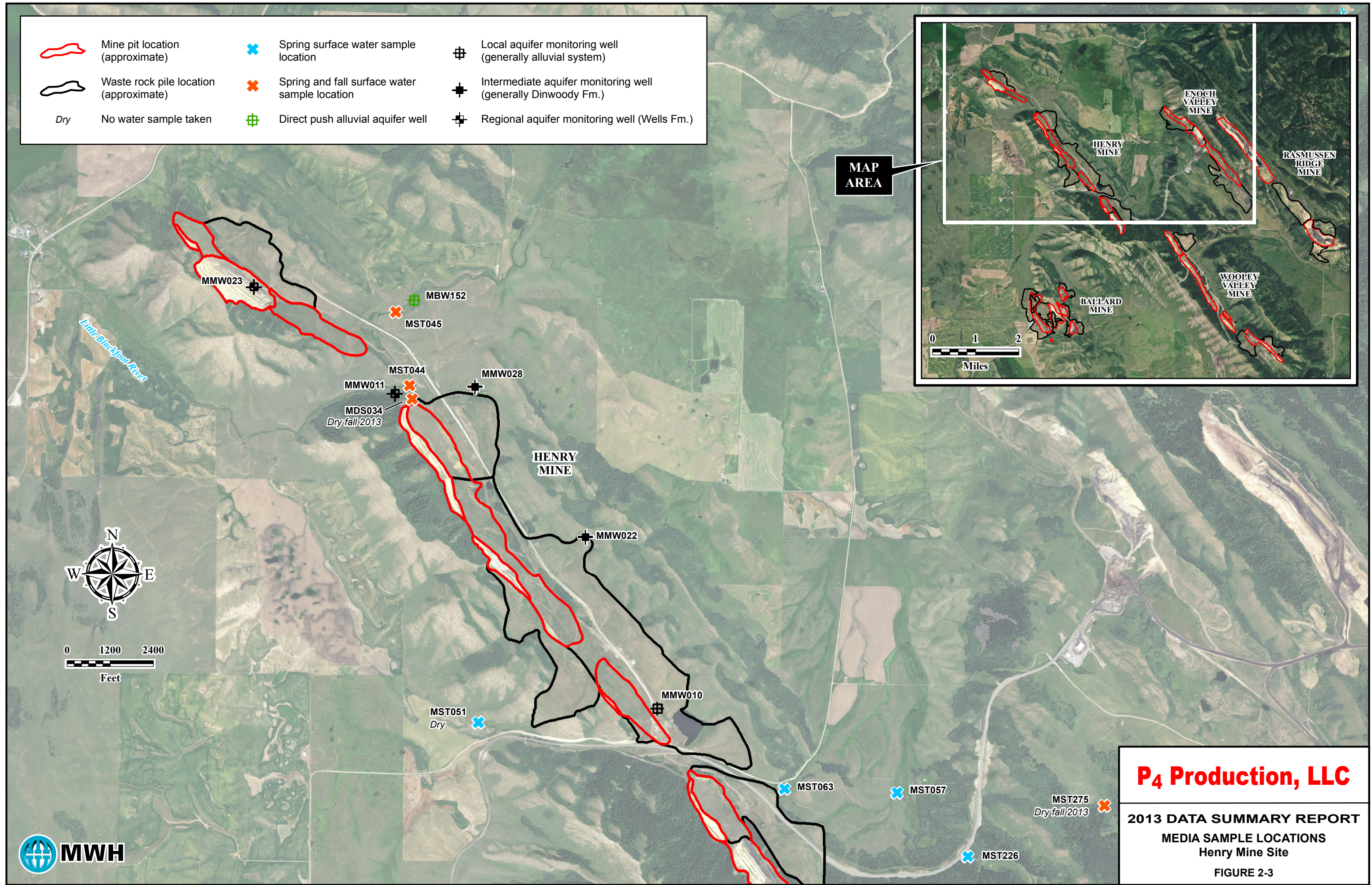


**P<sub>4</sub> Production, LLC**

**2013 DATA SUMMARY REPORT**

**MEDIA SAMPLE LOCATIONS  
Enoch Valley Mine Site**

**FIGURE 2-2**



## TABLES

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 1 of 13)

Location Identification		MDS030	MDS030	MDS030 Dup	MDS030 Dup
Location Type		Dump Seep	Dump Seep	Dump Seep	Dump Seep
Date Collected		4/23/2013	4/23/2013	4/23/2013	4/23/2013
Analyte/Methods (Units)					
	Screening Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	0.701 D	0.651 D	0.744 D	0.652 D
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 2 of 13)**

Location Identification		MDS030	MDS030	MSG004	MSG004
Location Type		Dump Seep	Dump Seep	Spring	Spring
Date Collected		9/23/2013	9/23/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)					
Screening Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	0.96 D	5.98 D	0.00881	0.0053
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 3 of 13)**

Location Identification		MSG004	MSG004	MSG005	MSG005
Location Type		Spring	Spring	Spring	Spring
Date Collected		9/23/2013	9/23/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)					
	Screening Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.00311</b>	<b>0.0668 D</b>	<b>0.0127</b>	<b>0.0126</b>
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 4 of 13)

Location Identification		MSG006	MSG006	MSG007	MSG007
Location Type		Spring	Spring	Spring	Spring
Date Collected		5/14/2013	5/14/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)					
Screening					
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	0.267 D	0.275 D	0.0193	0.163
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

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**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 5 of 13)

Location Identification		MST019	MST019	MST019	MST019
Location Type		Stream	Stream	Stream	Stream
Date Collected		5/15/2013	5/15/2013	9/23/2013	9/23/2013
Analyte/Methods (Units)					
Screening Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	0.0104	0.0111	0.00215	0.00416 D
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

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TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 6 of 13)

Location Identification		MST019 Dup	MST019 Dup	MST020	MST020
Location Type		Stream	Stream	Stream	Stream
Date Collected		9/23/2013	9/23/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)					
Screening					
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.00198</b>	<b>0.0029 D</b>	<b>0.0112</b>	<b>0.0103</b>
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 7 of 13)

Location Identification		MST020	MST020	MST050	MST050
Location Type		Stream	Stream	Stream	Stream
Date Collected		9/23/2013	9/23/2013	4/24/2013	4/24/2013
Analyte/Methods (Units)					
Screening Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.00237 D</b>	<b>0.00258 D</b>	<b>0.00326</b>	<b>0.00183</b>
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 8 of 13)**

Location Identification		MST066	MST066	MST067	MST067
Location Type		Stream	Stream	Stream	Stream
Date Collected		4/24/2013	4/24/2013	4/23/2013	4/23/2013
Analyte/Methods (Units)					
Screening					
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.0006 mg/l	<0.0006	--	0.00126	--
Selenium	0.005 mg/l	0.0263	0.0267	0.698 D	0.702 D
Vanadium	0.02 mg/l	0.0127	--	0.0177	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 9 of 13)**

Location Identification		MST067	MST067	MST069	MST069	
Location Type		Stream	Stream	Stream	Stream	
Date Collected		5/13/2013	5/13/2013	4/23/2013	4/23/2013	
Analyte/Methods (Units)						
Metals (mg/l)	Screening Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	
	Cadmium	0.0006 mg/l	0.00151	--	0.00155	--
	Selenium	0.005 mg/l	0.517 D	0.584 D	1.34 D	1.36 D
	Vanadium	0.02 mg/l	0.0246	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 10 of 13)

Location Identification		MST069	MST069	MST089	MST089
Location Type		Stream	Stream	Stream	Stream
Date Collected		9/23/2013	9/23/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)					
		Screening			
		Limits	<u>Dissolved</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium		0.0006 mg/l	<0.0006	<0.0006	--
Selenium		0.005 mg/l	<b>1.24 D</b>	<b>0.00275</b>	<b>0.0028</b>
Vanadium		0.02 mg/l	<0.01	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 11 of 13)**

Location Identification		MST090	MST090	MST092	MST092
Location Type		Stream	Stream	Stream	Stream
Date Collected		5/14/2013	5/14/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)					
Screening Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.000506 F</b>	<b>0.000768 F</b>	<b>0.00293</b>	<b>0.00319</b>
Vanadium	0.02 mg/l	<0.01	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

  Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 12 of 13)**

Location Identification		MST094	MST094	MST095	MST095
Location Type		Stream	Stream	Stream	Stream
Date Collected		5/14/2013	5/14/2013	4/27/2013	4/27/2013
Analyte/Methods (Units)					
Screening					
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.0006 mg/l	<0.0006	--	0.000319 F	--
Selenium	0.005 mg/l	0.00115	0.00096 F	0.299 DJ-	0.295 D
Vanadium	0.02 mg/l	<0.01	--	0.00699 F	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-1

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
BALLARD MINE, P4 RI/FS  
(Page 13 of 13)**

Location Identification		MST095	MST095	MST096	MST096
Location Type		Stream	Stream	Stream	Stream
Date Collected		5/13/2013	5/13/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)					
Screening Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)					
Cadmium	0.0006 mg/l	0.000398 F	--	<0.0006	--
Selenium	0.005 mg/l	0.109	0.104	0.0528	0.0557
Vanadium	0.02 mg/l	0.00616 F	--	<0.01	--

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-2

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
ENOCH VALLEY MINE SAMPLES, P4 RI/FS**

(Page 1 of 4)

Location Identification		MDS025	MDS025	MDS026	MDS026	MDS026	MDS026
Location Type		Dump Seep	Dump Seep	Dump Seep	Dump Seep	Dump Seep	Dump Seep
Date Collected		5/13/2013	5/13/2013	4/25/2013	4/25/2013	9/23/2013	9/23/2013
Analyte/Methods (Units)							
Screening							
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.0006 mg/l	<0.0006	--	0.00347	--	0.0023 D	--
Selenium	0.005 mg/l	0.0332	0.033	0.152 J-	0.129	0.0279 D	0.0348 D

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-2

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
ENOCH VALLEY MINE SAMPLES, P4 RI/FS**

(Page 2 of 4)

Analyte/Methods (Units)	Location Identification	MST128	MST128	MST131	MST131	MST132	MST132
	Location Type	Stream	Stream	Stream	Stream	Stream	Stream
	Date Collected	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
<b>Screening</b>							
<b>Metals (mg/l)</b>	<b>Limits</b>	<b><u>Dissolved</u></b>	<b><u>Total</u></b>	<b><u>Dissolved</u></b>	<b><u>Total</u></b>	<b><u>Total</u></b>	<b><u>Total</u></b>
Cadmium	0.0006 mg/l	<0.0006	--	<0.0006	--	--	<0.0006
Selenium	0.005 mg/l	<b>0.00216 J-</b>	<b>0.00209</b>	<b>0.00257 J-</b>	<b>0.00272</b>	<b>0.0024</b>	<b>0.00215 J-</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**J-** Highlight indicates exceedance above screening value

TABLE 3-2

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
ENOCH VALLEY MINE SAMPLES, P4 RI/FS**

(Page 3 of 4)

Analyte/Methods (Units)	Location Identification	MST132 Dup	MST132 Dup	MST133	MST133	MST133	MST133
	Location Type Date Collected	Stream 4/25/2013	Stream 4/25/2013	Stream 4/25/2013	Stream 4/25/2013	Stream 5/13/2013	Stream 5/13/2013
	<b>Screening</b>						
<b>Metals (mg/l)</b>	<b>Limits</b>	<b>Total</b>	<b>Total</b>	<b>Dissolved</b>	<b>Total</b>	<b>Dissolved</b>	<b>Total</b>
Cadmium	0.0006 mg/l	--	<0.0006	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.00209</b>	<b>0.00228 J-</b>	<b>0.00198 J-</b>	<b>0.0019</b>	<b>0.00381</b>	<b>0.00399</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-2

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
ENOCH VALLEY MINE SAMPLES, P4 RI/FS**

(Page 4 of 4)

Analyte/Methods (Units)	Location Identification	MST136	MST136	MST143	MST143	MST274	MST274
	Location Type	Stream	Stream	Stream	Stream	Stream	Stream
	Date Collected	4/23/2013	4/23/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
<b>Screening</b>							
<b>Metals (mg/l)</b>	<b>Limits</b>	<b><u>Dissolved</u></b>	<b><u>Total</u></b>	<b><u>Dissolved</u></b>	<b><u>Total</u></b>	<b><u>Dissolved</u></b>	<b><u>Total</u></b>
Cadmium	0.0006 mg/l	<b>0.000303 F</b>	--	<0.0006	--	<0.0006	--
Selenium	0.005 mg/l	<b>0.016</b>	<b>0.0147</b>	<0.001 J-	<0.001	<b>0.00433 J-</b>	<b>0.00385</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-3

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
HENRY MINE SAMPLES, P4 RI/FS**

(Page 1 of 4)

Analyte/Methods (Units)	Location Identification		MDS034	MDS034	MST044	MST044	MST044	MST044
	Location Type		Dump Seep	Dump Seep	Stream	Stream	Stream	Stream
	Date Collected		4/24/2013	4/24/2013	4/24/2013	4/24/2013	9/23/2013	9/23/2013
Metals (mg/l)	Screening							
	Limits		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.005 mg/l		<b>0.0977</b>	<b>0.101</b>	0.0011	0.00123	0.001 F	0.000844 F

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

TABLE 3-3

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS**  
**HENRY MINE SAMPLES, P4 RI/FS**  
 (Page 2 of 4)

Analyte/Methods (Units)	Location Identification		MST045	MST045	MST045 Dup	MST045 Dup	MST045	MST045
	Location Type		Stream	Stream	Stream	Stream	Stream	Stream
	Date Collected		4/24/2013	4/24/2013	4/24/2013	4/24/2013	9/23/2013	9/23/2013
<hr/>								
	Screening		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Metals (mg/l)	Limits							
Selenium	0.005 mg/l		0.00113	0.00113	0.00112	0.00125	0.00114	0.000959 F

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

  Highlight indicates exceedance above screening value

TABLE 3-3

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
HENRY MINE SAMPLES, P4 RI/FS**

(Page 3 of 4)

Location Identification		MST057	MST057	MST063	MST063	MST226	MST226
Location Type		Stream	Stream	Stream	Stream	Stream	Stream
Date Collected		4/23/2013	4/23/2013	4/23/2013	4/23/2013	5/13/2013	5/13/2013
Analyte/Methods (Units)							
Screening							
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.005 mg/l	0.000585 F	0.00064 F	0.0152	0.0181	0.00267	0.00272

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

Highlight indicates exceedance above screening value

TABLE 3-3

**EXCEEDANCE SUMMARY OF 2013 SURFACE WATER RESULTS  
HENRY MINE SAMPLES, P4 RI/FS**

**(Page 4 of 4)**

<b>Location Identification</b>		<b>MST275</b>	<b>MST275</b>
<b>Location Type</b>		<b>Stream</b>	<b>Stream</b>
<b>Date Collected</b>		<b>5/13/2013</b>	<b>5/13/2013</b>
<b>Analyte/Methods (Units)</b>			
		<b>Screening Limits</b>	
<b>Metals (mg/l)</b>		<b><u>Dissolved</u></b>	<b><u>Total</u></b>
Selenium		0.005 mg/l	<0.001

mg/l      milligrams per liter.

**Bold**      Bolded result indicates positively identified compound.

F          Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.


 Highlight indicates exceedance above screening value

TABLE 3-4

RELATIVE PERCENT DIFFERENCE COMPARISON FOR 2013 SUPPLEMENTARY SURFACE WATER SAMPLE RESULTS  
P4 RI/FS  
(Page 1 of 1)

Location Identification		MST067	MST067				MST095	MST095				MST095	MST095				MST133	MST133	MST133	MST133
Location Type		Stream	Stream				Stream	Stream				Stream	Stream				Stream	Stream	Stream	Stream
Date Collected		4/23/2013	5/13/2013				4/23/2013	5/13/2013				4/27/2013	5/13/2013				4/25/2013	5/13/2013	4/25/2013	5/13/2013
Analyte/Methods (Units)	Screening																			
Metals (mg/l)	Limits	<u>Dissolved</u>	<u>Dissolved</u>	<u>RPD</u>	<u>Total</u>	<u>Total</u>	<u>RPD</u>	<u>Dissolved</u>	<u>Dissolved</u>	<u>RPD</u>	<u>Total</u>	<u>Total</u>	<u>RPD</u>	<u>Dissolved</u>	<u>Dissolved</u>	<u>RPD</u>	<u>Total</u>	<u>Total</u>	<u>RPD</u>	<u>RPD</u>
Cadmium	0.0006 mg/l	0.00126	0.00151	18.05	--	--	na	0.000319 F	0.000398 F	22.04	--	--	na	ND	ND		--	--	na	
Selenium	0.005 mg/l	0.698 D	0.517 D	29.79	0.702 D	0.584 D	18.35	0.299 DJ-	0.109	93.14	0.295 D	0.104	95.74	0.00198 J-	0.00381	63.21	0.0019	0.00399	70.97	
Vanadium	0.02 mg/l	0.0177	0.0246	32.62	--	--	na	0.00699 F	0.00616 F	12.62	--	--	na	ND	ND		--	--	na	

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

na not applicable

ND Non detection

QAPP Quality Assurance Project Plan

RPD Relative Percent Difference

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

J- Data are estimated due to associated quality control data. Potential low bias.

Highlight indicates exceedance above screening value

Highlight indicates exceedance above QAPP duplicate sample analysis RPD of ≤20% for water samples.

TABLE 3-5

**STATISTICAL ANALYSIS RESULTS FOR 2013 SUPPLEMENTARY SURFACE WATER SAMPLE RESULTS**  
**P4 RI/FS**  
**(Page 1 of 1)**

Location Identification	Analyte Positively Identified	Number of Historical May Samples	Maximum Result (mg/l)	Minimum Result (mg/l)	Mean (mg/l)	Standard Deviation (sdv)	mean + sdv	mean - sdv	April 2013 Result (mg/l)
<b>MST067</b>	Cadmium - dissolved	8	0.0044	ND	0.00161	0.00134	0.00295	0.00028	0.00126
	Selenium - dissolved	4	0.517	0.01	0.359	0.235	0.594	0.124	0.698
	Vanadium - dissolved	8	0.0263	0.0084	0.0180	0.0075	0.0255	0.0105	0.0177
	Selenium - total	8	0.867	0.022	0.407	0.322	0.729	0.084	0.702
<b>MST095</b>	Cadmium - dissolved	8	0.0005	ND	0.000243	0.000184	0.000427	0.000059	0.000319
	Selenium - dissolved	3	0.38	0.109	0.246	0.136	0.382	0.111	0.299
	Vanadium - dissolved	8	0.00616	ND	0.00267	0.00281	0.00548	-0.00014	0.00699
	Selenium - total	8	0.446	0.059	0.197	0.150	0.348	0.047	0.295
<b>MST133</b>	Cadmium - dissolved	8	ND	ND	ND	ND	ND	ND	ND
	Selenium - dissolved	1	0.00381	0.00381	0.00381	na	na	na	0.00198
	Vanadium - dissolved	8	0.0015	ND	0.0004	0.0006	0.0011	-0.0002	ND
	Selenium - total	8	0.007	ND	0.0034	0.0026	0.0060	0.0007	0.0019

April 2013 result fell within one standard deviation within the mean

April 2013 result fell within two standard deviation within the mean

na statistical analysis could not be completed because only one historical sample exists

ND non detection

TABLE 3-6

## EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS

BALLARD MINE, P4 RI/FS

(Page 1 of 8)

Location Identification		MBW006	MBW006	MBW009	MBW009	MBW011	MBW011
Well Type		BW	BW	BW	BW	BW	BW
Date Collected		4/24/2013	4/24/2013	4/26/2013	4/26/2013	4/25/2013	4/25/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<0.0006	--	0.000499 F	--	<0.0006
Manganese	0.05 mg/l	--	0.0107	--	0.465 D	--	0.141
Selenium	0.05 mg/l	0.758 D	0.684 D	0.0567	0.0598	0.791 D	0.74 D
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	465 D	--	271 D	--	173 D	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	838	--	502	--	512

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 2 of 8)

Location Identification		MBW027	MBW027	MBW028	MBW028	MBW032	MBW032
Well Type		BW	BW	BW	BW	BW	BW
Date Collected		4/24/2013	4/24/2013	4/25/2013	4/25/2013	4/27/2013	4/27/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<b>0.000401 F</b>	--	<b>0.000325 F</b>	--	<b>0.000938</b>
Manganese	0.05 mg/l	--	<b>0.00245</b>	--	<b>0.0539</b>	--	<b>0.00159 F</b>
Selenium	0.05 mg/l	<b>0.53 D</b>	<b>0.538 D</b>	<b>1.05 D</b>	<b>1.09 D</b>	<b>2.03 D</b>	<b>1.97 D</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>310 D</b>	--	<b>506 D</b>	--	<b>802 D</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>776</b>	--	<b>968</b>	--	<b>1220</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 3 of 8)

Location Identification		MBW032 Dup	MBW032 Dup	MBW048	MBW048	MBW130	MBW130
Well Type		BW	BW	BW	BW	BW	BW
Date Collected		4/27/2013	4/27/2013	5/14/2013	5/14/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)							
		Screening Limits					
		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
<b>Metals (mg/l)</b>							
Cadmium	0.005 mg/l	--	<b>0.00097</b>	--	<b>0.000662</b>	--	<b>0.000343 F</b>
Manganese	0.05 mg/l	--	<b>0.00276</b>	--	<b>0.247</b>	--	<b>0.0628</b>
Selenium	0.05 mg/l	<b>1.91 D</b>	<b>1.96 D</b>	<0.001	<0.001	<b>0.000673 F</b>	<b>0.000875 F</b>
<b>Chemistry Parameters (mg/l)</b>							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>835 D</b>	--	<b>5.46</b>	--	<b>15.7</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>1240</b>	--	<b>98</b>	--	<b>134</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 4 of 8)

Location Identification		MBW131	MBW131	MBW135	MBW135	MMW006	MMW006
Well Type		BW	BW	BW	BW	MW	MW
Date Collected		5/14/2013	5/14/2013	4/26/2013	4/26/2013	4/26/2013	4/26/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<0.0006	--	<0.0006	--	<0.0006
Manganese	0.05 mg/l	--	<b>0.00268</b>	--	<b>0.572 D</b>	--	<b>0.00185 F</b>
Selenium	0.05 mg/l	<b>0.00233</b>	<b>0.00257</b>	<0.001	<0.001	<b>0.102</b>	<b>0.0995</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>3.45</b>	--	<b>48.6</b>	--	<b>75.5</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>92</b>	--	<b>220</b>	--	<b>272</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 5 of 8)

Location Identification		MMW017	MMW017	MMW018	MMW018	MMW020	MMW020
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		4/23/2013	4/23/2013	4/27/2013	4/27/2013	4/26/2013	4/26/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<b>0.000585 F</b>	--	<0.0006	--	<b>0.0133</b>
Manganese	0.05 mg/l	--	<b>0.00854</b>	--	<b>0.0246</b>	--	<b>0.00214</b>
Selenium	0.05 mg/l	<b>0.144</b>	<b>0.146</b>	<b>0.0315</b>	<b>0.0316</b>	<b>0.354 D</b>	<b>0.361 D</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>480 D</b>	--	<b>42.4</b>	--	<b>181 D</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>1040</b>	--	<b>220</b>	--	<b>490</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 6 of 8)

Location Identification		MMW021	MMW021	MMW029	MMW029	MMW030	MMW030
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		4/23/2013	4/23/2013	4/26/2013	4/26/2013	5/16/2013	5/16/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<0.0006	--	<0.0006	--	<0.0006
Manganese	0.05 mg/l	--	<0.002	--	<0.002	--	<b>0.0589</b>
Selenium	0.05 mg/l	<b>0.0537</b>	<b>0.0588</b>	<b>0.577 D</b>	<b>0.514 D</b>	<0.001	<0.001
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>45.4</b>	--	<b>772 D</b>	--	<b>14.2</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>348</b>	--	<b>1380</b>	--	<b>194</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 7 of 8)

Location Identification		MMW031	MMW031	MMW032	MMW032	MMW033	MMW033
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		4/23/2013	4/23/2013	5/16/2013	5/16/2013	4/27/2013	4/27/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<0.0006	--	<0.0006	--	<0.0006
Manganese	0.05 mg/l	--	<0.002	--	<b>0.0136</b>	--	<b>0.0337</b>
Selenium	0.05 mg/l	<b>0.00162</b>	<b>0.00156</b>	<b>0.00177</b>	<b>0.00159</b>	<0.001	<b>0.000533 F</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>5.65</b>	--	<b>5.63</b>	--	<b>27</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>174</b>	--	<b>194</b>	--	<b>216</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

  Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-6

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**BALLARD MINE, P4 RI/FS**  
 (Page 8 of 8)

Location Identification		MW15A	MW15A	MW16A	MW16A
Well Type		MW	MW	MW	MW
Date Collected		4/23/2013	4/23/2013	4/24/2013	4/24/2013
Analyte/Methods (Units)					
		Screening Limits			
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Cadmium	0.005 mg/l	--	<0.0006	--	<0.0006
Manganese	0.05 mg/l	--	<b>0.0119</b>	--	<b>1.73 D</b>
Selenium	0.05 mg/l	<b>2.7 D</b>	<b>2.34 D</b>	<b>0.00341</b>	<b>0.0033</b>
Chemistry Parameters (mg/l)					
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>702 D</b>	--	<b>762 D</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>1380</b>	--	<b>1180</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 1 of 6)

Location Identification		MBW085	MBW085	MBW087	MBW087	MBW099	MBW099
Well Type		BW	BW	BW	BW	BW	BW
Date Collected		5/13/2013	5/13/2013	4/26/2013	4/26/2013	5/16/2013	5/16/2013
Analyte/Methods (Units)							
	Screening Limits						
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.05 mg/l	0.00247	0.00269	0.00105	0.00137	0.000736 F	0.000551 F
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	23.5	--	24.6	--	14	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	224	--	274	--	126

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

  Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 2 of 6)

Location Identification		MMW007	MMW007	MMW009	MMW009	MMW013	MMW013
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		5/15/2013	5/15/2013	5/15/2013	5/15/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)							
Screening Limits							
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.05 mg/l	0.00223	0.00232	<0.001	<0.001	0.145	0.144
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	13.3	--	56.5 D	--	218 D	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	108	--	234	--	478

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 3 of 6)

Location Identification		MMW024	MMW024	MMW025	MMW025	MMW026	MMW026
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		5/15/2013	5/15/2013	5/13/2013	5/13/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)							
	Screening Limits						
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.05 mg/l	0.0785	0.0783	0.000568 F	0.000529 F	0.00104	0.00115
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	269 D	--	12.4	--	23.5	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	598	--	194	--	248

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 4 of 6)

Location Identification		MMW027	MMW027	MMW034	MMW034	MMW034 Dup	MMW034 Dup
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		5/14/2013	5/14/2013	5/15/2013	5/15/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.05 mg/l	0.688 D	0.637 D	0.115	0.117	0.11	0.101
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	340 D	--	167 D	--	171 D	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	872	--	428	--	408

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 5 of 6)

Location Identification		MMW035	MMW035	MMW036	MMW036	MMW037	MMW037
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		5/14/2013	5/14/2013	5/14/2013	5/14/2013	5/14/2013	5/14/2013
Analyte/Methods (Units)							
	Screening Limits						
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Selenium	0.05 mg/l	1.23 D	0.187 D	0.0167	0.0174	0.0224	0.0224
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	477 D	--	22.4	--	26.7	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	1230	--	270	--	292

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-7

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**ENOCH VALLEY, P4 RI/FS**  
 (Page 6 of 6)

Location Identification		MMW037 Dup	MMW037 Dup
Well Type		MW	MW
Date Collected		5/14/2013	5/14/2013
Analyte/Methods (Units)			
		Screening Limits	
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>
Selenium		0.05 mg/l	<b>0.0227</b>
Chemistry Parameters (mg/l)			
Sulfate (as SO <sub>4</sub> )		250 mg/l	<b>27</b>
Total dissolved solids (Residue, filterable)		500 mg/l	<b>--</b>
mg/l	milligrams per liter.		
<b>Bold</b>	Bolded result indicates positively identified compound.		
--	Not scheduled.		
D	Sample dilution required for analysis; reported values reflect the dilution.		
F	Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.		
	Highlight indicates exceedance above screening value		
BW	Bore Hole Well		
MW	Monitoring Well		

TABLE 3-8

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**HENRY MINE, P4 RI/FS**  
 (Page 1 of 3)

Location Identification		MBW152	MBW152	MMW010	MMW010	MMW011	MMW011
Well Type		BW	BW	MW	MW	MW	MW
Date Collected		4/26/2013	4/26/2013	4/25/2013	4/25/2013	5/15/2013	5/15/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Manganese	0.05 mg/l	--	<b>0.303 D</b>	--	<b>0.0258</b>	--	<b>0.00229</b>
Selenium	0.05 mg/l	<b>0.00241</b>	<b>0.00214</b>	<b>0.225</b>	<b>0.219</b>	<b>0.000855 F</b>	<b>0.000953 F</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>124 D</b>	--	<b>523 D</b>	--	<b>80.3 D</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>426</b>	--	<b>1110</b>	--	<b>412</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-8

## EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS

HENRY MINE, P4 RI/FS

(Page 2 of 3)

Location Identification		MMW022	MMW022	MMW023	MMW023	MMW028	MMW028
Well Type		MW	MW	MW	MW	MW	MW
Date Collected		4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013	4/25/2013
Analyte/Methods (Units)							
		Screening Limits					
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>	<u>Dissolved</u>	<u>Total</u>
Manganese	0.05 mg/l	--	<b>0.0248</b>	--	<b>0.359 D</b>	--	<0.002
Selenium	0.05 mg/l	<b>0.0443</b>	<b>0.0456</b>	0.000765 F	0.000956 F	<b>0.00446</b>	<b>0.004</b>
Chemistry Parameters (mg/l)							
Sulfate (as SO <sub>4</sub> )	250 mg/l	<b>283 D</b>	--	<b>198 D</b>	--	<b>65.6</b>	--
Total dissolved solids (Residue, filterable)	500 mg/l	--	<b>682</b>	--	<b>630</b>	--	<b>310</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

**Highlight** Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

TABLE 3-8

**EXCEEDANCE SUMMARY OF 2013 GROUNDWATER RESULTS**  
**HENRY MINE, P4 RI/FS**  
 (Page 3 of 3)

Location Identification		MMW028 Dup	MMW028 Dup
Well Type		MW	MW
Date Collected		4/25/2013	4/25/2013
Analyte/Methods (Units)			
		Screening Limits	
Metals (mg/l)		<u>Dissolved</u>	<u>Total</u>
Manganese		--	<0.002
Selenium		<b>0.00409</b>	<b>0.00454</b>
Chemistry Parameters (mg/l)			
Sulfate (as SO <sub>4</sub> )		<b>64.9</b>	--
Total dissolved solids (Residue, filterable)		--	<b>310</b>

mg/l milligrams per liter.

**Bold** Bolded result indicates positively identified compound.

-- Not scheduled.

D Sample dilution required for analysis; reported values reflect the dilution.

F Analyte was positively identified but the reported concentration is estimated; reported concentration is less than the reporting limit, but greater than the method detection limit.

  Highlight indicates exceedance above screening value

BW Bore Hole Well

MW Monitoring Well

## **APPENDICES**